

ALLOPTERIGERON, A NEW GENUS IN ASTERACEAE (INULEAE)

C. R. Dunlop

Department of Primary Production, P.O. Box 5160, Darwin, N.T. 5794.

Abstract

Allopterigeron Dunlop, a new genus from Northern Australia, is described. The new combination, *Allopterigeron filifolius* (F. Muell.) Dunlop is made for its only species; a detailed description is given with locality records and illustrations.

Introduction

During the course of a revision of *Pterigeron* (DC.) Benth. (= *Streptoglossa* Steetz in F. Muell.) (Dunlop, 1981) it became evident that *P. filifolius* (F. Muell.) Benth. was not closely related to other members of the genus.

Pterigeron filifolius was originally described under *Pluchea* Less. (Mueller, 1859a) as the only member of sect. *Oliganthemum*. In the same year Mueller (1859b) described *Pluchea* sect. *Rhodanthemum* to accommodate the group of species which was later to form the genus *Pterigeron* (Bentham, 1867). Bentham incorrectly combined Mueller's two sections under *Pterigeron* on the superficial resemblance between the female florets.

ALLOPTERIGERON Dunlop

Allopterigeron Dunlop, gen. nov., *Streptoglossa* Steetz in F. Muell. affinis, a qua flosculis discis 3-partitis sterilibus et antheris ecaudatis differt.

Herba annua. *Folia* simplicia, caulina, alterna, sessilia. *Capitula* heterogama. *Phyllaria* multiserialia, imbricata. *Receptaculum* planum, epaleaceum. *Flosculi marginales* feminei, fertiles, ligulati. *Flosculi disci* bisexualis fungentes masculi, stigmatibus integro; corollae 3-lobatae, antherae sine caudis. *Achenia* teretia, leviter complanata. *Pappus* persistens, plumosus-setosus.

Typus: *A. filifolius* (F. Muell.) Dunlop.

Annual herb. Leaves simple, cauline, alternate, sessile. Capitula heterogamous. Phyllaries in several series, imbricate. Receptacle flat, epaleaceous. Marginal florets female, fertile, ligulate. Disc florets bisexual, functionally male with entire stigmas; corollas 3-lobed; stamens 3, anthers without tails. Achenes terete, slightly flattened. Pappus persistent, plumose-setose.

Only one species is included in this genus.

Allopterigeron filifolius (F. Muell.) Dunlop, comb. nov.

Pluchea filifolia F. Muell., Trans. Philos. Instit. Victoria 3: 56 (1859), *basionym*.

Type: Arnhem Land, salsola plains of the Roper R., *F. Mueller s.n.*, 19.vii.1856 (MEL 42559, holotype).

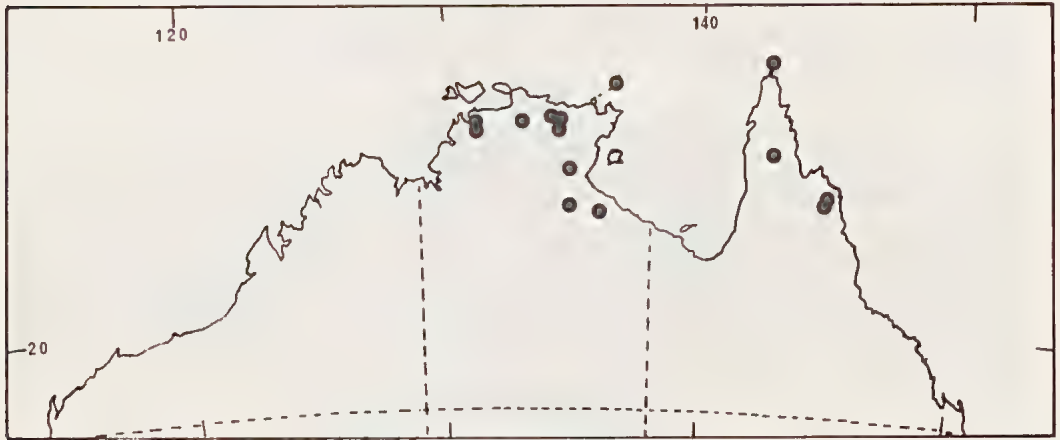
Pterigeron filifolius (F. Muell.) Benth., Fl. Aust. 3: 533 (1867).

Annual herb to 40 cm high; stems and leaves sparsely hairy and glandular; trichomes multiseptate, usually appressed to the stem, occasionally greatly elongated; glands minute, stipitate. Stems erect, diffusely branched. Leaves filiform, slightly fleshy, the margins recurved, 2-45 mm long, c. 0.6 mm wide. Capitula terminating short lateral branches, scattered; florets 4-7. Outermost phyllaries inserted c. 2 mm below the receptacle on the peduncle, the inner ones subtending the outer florets; narrow lanceolate, acuminate, smooth, glabrous with minute glands occasionally present; inner phyllaries

c. 10 mm long, outermost c. 1 mm long, recurved at maturity, never wholly reflexed. *Receptacle* irregularly sculptured, glabrous c. 0.8 mm broad, scarcely broader than the peduncle. *Marginal florets* 3-5, c. 5 mm long; ligules white, c. 1 mm long, minutely 2-lobed; style base bulbous. *Disc florets* 2-3, ovary vestigial; pappus absent; style strongly papillate; corolla tube white, c. 5 mm long, sparsely glandular; anthers c. 1 mm long. *Achenes* c. 2 mm long, closely ribbed, constricted below the pappus; sericeous with duplex hairs; carpodium oblique. *Pappus* setae in several series, uneven. Fig. 1.

Distribution

Northern Territory and Queensland. Map 1.



Map 1. Distribution of *Allopterigeron filifolius* (F. Muell.) Dunlop.

Specimens Examined

NORTHERN TERRITORY: McArthur R. area, *L.A. Craven* 4112, 4.vi.1976 (CANB); Darwin, *C.R. Dunlop* 4468, 20.iv.1977 (DNA); Deaf Adder Gorge, *C.R. Dunlop* 4990, 18.vii.1978 (DNA); Arnhem Land, *P.K. Latz* 2976, 24.vi.1972 (BRI, L, NT); Arnhem Land, *P.K. Latz* 2987, 25.vi.1972 (CANB, DNA, NT); Arnhem Land, *P.K. Latz* 3024, 27.vi.1972 (NT); Wessel Island, *P.K. Latz* 3377, 1.x.1972 (DNA, NT); Darwin, *P.K. Latz* 3605, 28.iv.1973 (BRI, CANB, DNA, K, NSW, NT); Cox R., *P.K. Latz* 7307, 3.viii.1977 (DNA, NT); Arnhem Land, *F. Mueller s.n.*, 19.vii.1856 (MEL, holotype); 14 miles W of Liverpool R. crossing, *J. Must* 1066, 27.vi.1972 [CANB, DNA, K (n.v.), L (n.v.), NSW (n.v.), NT]; Berry Springs, *M.O. Rankin* 1218, 27.v.1978 (CANB, DNA); 250 km ENE of Darwin, *R. Story* 8357, 16.vi.1978 (CANB, DNA).

QUEENSLAND: Thursday Is., *F.M. Bailey s.n.*, -.vi.1897 (BRI); New Holland (prob. Endeavour R.), *Banks & Solander s.n.*, 1770 (NSW); Cape York Peninsula, *L.J. Brass* 19714, 27.vii.1948 (CANB); 15°45'S, 144°39'E, *N. Byrnes* 3090, 27.vii.1974 (BRI, DNA).

Notes

Pappus bristles were not seen on any of the sterile disc florets although Mueller (1859a) described them as occasionally having one or two bristles. The ovary of these florets is so reduced that the only evidence of its existence is a slight colour change at the base of the corolla and a few minute duplex hairs (Fig. 1).

Affinities

The most distinctive feature exhibited by *Allopterigeron* and that which separates it from all of the apparently closely related genera is the extreme reduction in the disc florets. Besides being few in number (2 or 3), the disc florets are three-partite and sterile with an entire stigma. They also lack a pappus and the anthers are without tails. The absence of anther tails is not unknown in the Inuleae (*Merxmüller et al.*, 1977; *Randeria*, 1960) and it is there that *Allopterigeron* is best placed with what *Merxmüller et al.*, have

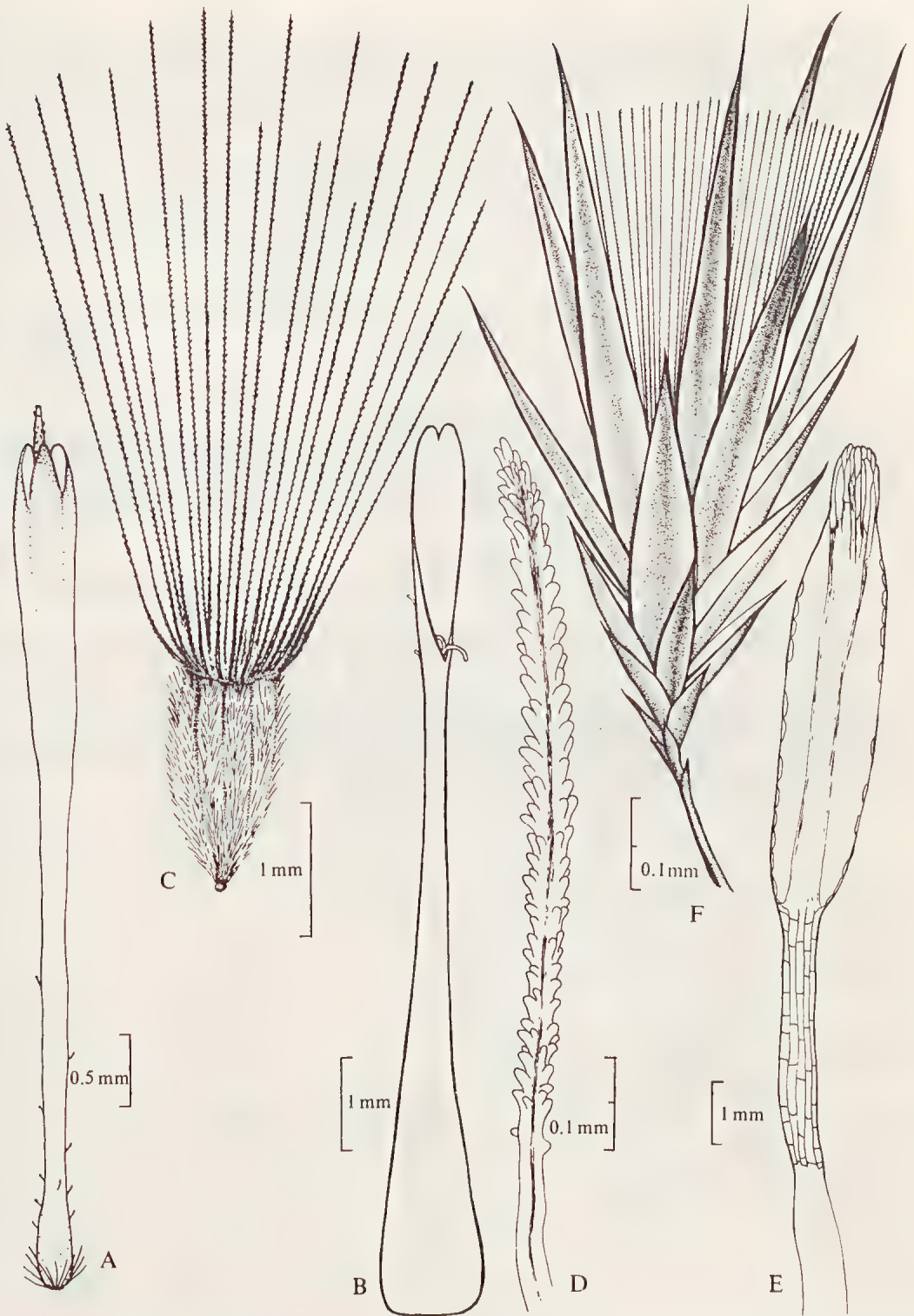


Fig. 1. A-F *Allopterigeron filifolius* (F. Muell.) Dunlop, from Dunlop 4990. A, disc floret; B, corolla of marginal floret; C, achene; D, style of disc floret; E, stamen; F, capitulum.

defined as the *Pluchea* group within the Inulinae. Of the eighteen genera listed for the group *Allopterigeron* appears to be closest to *Pterigeron* (= *Streptoglossa* Steetz in F. Muell.) where it was placed by Bentham (1867). Both genera possess ligulate female florets and have achenes of similar size, shape, vestiture and form of pappus. The achenes of *Allopterigeron* also have the superficial ribs seen in a number of species of *Streptoglossa* (Dunlop, 1981). Beside the severe reduction in the disc florets mentioned above, *Allopterigeron* may be distinguished from *Streptoglossa* by the structure of the involucre. In *Allopterigeron* the bracts of the involucre extend well down the peduncle with only the inner-most series subtending the diminutive receptacle. The involucre of *Streptoglossa* is inserted around and beneath the broad receptacle.

The main differences between these genera are summarised in the following key:

Florets few (c. 6); disc florets sterile, 3-partite; anthers tailless *Allopterigeron*
 Florets numerous (15-190); disc florets fertile, 4-, 5-partite; anthers tailed *Streptoglossa*

Acknowledgements

I am grateful to Dr Hj. Eichler, Curator, Herbarium Australiense, Canberra who kindly read an early draft of the manuscript and made several helpful suggestions. The help of my wife, Adrienne, in providing the illustrations is also gratefully acknowledged.

References

- Airy Shaw, H.K. (1973). J.C. Willis's "A Dictionary of the Flowering Plants and Ferns" 8th edn. (University Press: Cambridge).
 Bentham, G. (1867). "Flora Australiensis". 3: 533. (L. Reeve & Co.: London).
 Dunlop, C.R. (1981). A revision of the genus *Streptoglossa* (Asteraceae: Inuleae). *J. Adelaide Bot. Gard.* 3: 167-182.
 Merxmüller, H., Leins, P., & Roessler, H. (1977). In Heywood, V.H., Harborne, J.B. & Turner, B.L. (eds), "The Biology and Chemistry of the Compositae". 1: 577-602. (Academic Press: London).
 Mueller, F.J.H. (1859a). Some hitherto unknown Australian Plants. *Trans. Philos. Inst. Victoria.* 3: 56.
 Mueller, F.J.H. (1859b). "Report on the plants collected during Mr. Babbage's expedition into the north-western interior of South Australia in 1858". 12. (Government Printer: Melbourne).
 Randeria, A.J. (1960). The composite genus *Blumea*, a taxonomic revision. *Blumea* 10: 176-317.